beginning at an outward boundary of the intermediate region and extending to a tip end of the blade, the inner region being swept forward and the intermediate region being swept rearward at a sweep angle that does not decrease; and

the tip region is translated forward relative to a leading edge with the same sweep angle as the outward boundary of the intermediate region, to provide a sweep angle that causes the blade to intercept the shock.

~~9~~ 8. The turbomachinery blade of any one of claims 4 to 7, wherein the inner region extends between a root end of the blade and the inward boundary of the intermediate region, and the entire inner region is swept forward.

~~10~~ 9. A blade for a gas turbine engine fan comprising a plurality of blades mounted for rotation within a case circumscribing the blades and forming an outer boundary for a working medium gas flowing through passages formed by neighboring blades, wherein:

the blade has a configuration enabling the fan to rotate at speeds providing supersonic flow velocities over the blade in at least a portion of each passage;

the blade has a leading edge with an inner region ending at an inward boundary of an intermediate region and a tip region

beginning at an outward boundary of the intermediate region and extending to a tip end of the blade, the inner region being swept forward and the intermediate region being swept rearward at a sweep angle that does not decrease from the inward boundary of the intermediate region to the outward boundary of the intermediate region; and

throughout the tip region the sweep angle is less than the sweep angle at the outward boundary of the intermediate region.

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11. The blade of claim ~~10~~, wherein the tip region is translated forward relative to a leading edge with the same sweep angle as the outward boundary of the intermediate region.

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16. The blade of claim ~~11~~, wherein the inner region extends between a root end of the blade and the inward boundary of the intermediate region, and the entire inner region is swept forward.

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~~19~~. The blade of claim ~~10~~, wherein the tip region maintains a rearward sweep throughout the tip region.

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~~20~~. A gas turbine engine fan, comprising a plurality of blades mounted for rotation within a case circumscribing the

blades and forming an outer boundary for a working medium gas flowing through passages formed by neighboring blades, wherein:

each blade has a configuration enabling the fan to rotate at speeds providing supersonic working medium gas velocities over the blade at least in the vicinity of the passages proximate to the case;

each blade has a leading edge with an inner region ending at an inward boundary of a swept intermediate region and a swept tip region beginning at an outward boundary of the intermediate region and extending to a tip end of the blade, the inner region of each blade being swept forward and the intermediate region of each blade being swept rearward at a sweep angle that does not decrease from the inward boundary of the intermediate region to the outward boundary of the intermediate region; and

throughout the tip region the sweep angle of each blade is less than the sweep angle at the outward boundary of the intermediate region.

~~21~~ 17. The gas turbine engine fan of claim ~~20~~ 16, wherein the tip region is translated forward relative to a leading edge with the same sweep angle as the outward boundary of the intermediate region.

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22. The gas turbine engine fan of claim ~~21~~, wherein:

the intermediate region sweep angle of each blade increases throughout the intermediate region; and

the tip region sweep angle of each blade decreases throughout the tip region.

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23. The gas turbine engine fan of claim ~~22~~, wherein the inner region of the leading edge of each blade begins at a root end of the blade and extends to the inward boundary of the intermediate region, and the entire inner region of each blade is swept forward.

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27. A gas turbine engine fan comprising a plurality of identical blades, each blade being mounted for rotation within a case circumscribing the blades and having an inner wall forming an outer boundary for a working medium gas flowing through passages formed by neighboring blades, wherein:

each blade has a configuration enabling the fan to rotate at speeds providing supersonic working medium gas velocities over the blade in the vicinity of the passages proximate to the case;

each blade has a leading edge with an inner region, an intermediate region and a tip region, the inner region extending to an inward boundary of the intermediate region, and the tip

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region extending from an outward boundary of the intermediate region to a tip end of the blade; and

the inner region is swept forward, the intermediate region is swept rearward at a sweep angle that does not decrease, and the tip region is translated forward relative to a leading edge with the same sweep angle as the outward boundary of the intermediate region.

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~~42~~. The gas turbine engine fan of claim ~~27~~, wherein the inner wall of the case is perpendicular to pressure waves that extend spanwise of the blades as they rotate, the waves being incident to the case wall in a region of the blades.

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~~43~~. The gas turbine engine fan of claim ~~27~~, wherein a projection of the tip end of each blade onto a radial plane is parallel to the inner wall of the casing in longitudinal cross-section.

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~~30~~. A blade for a gas turbine engine rotatable within a case at speeds providing supersonic flow over at least a portion of the blade, wherein the blade has a leading edge with a forward swept inner region, the inner region ending at a rearward swept middle region having a sweep angle that does not decrease